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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/803,039	03/09/2001	David Walter Erismann	56270USA7A	8407
32692	7590	07/07/2005	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			ANTHONY, JOSEPH DAVID	
			ART UNIT	PAPER NUMBER

1714

DATE MAILED: 07/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/803,039

Applicant(s)

ERISMANN ET AL

Examiner

Joseph D. Anthony

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-51 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 35-48 been renumbered as 38-51. Please note that misnumbered claim 35 comes after claim number 37 in applicant's originally filed list of claims.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 6, 9-23, and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Liu U.S. Patent Number 6,084,008.

Liu teaches a fire retardant coating composition which comprises expandable graphite particles, a solid absorbent material, a polymeric binder, a carbonific material, a blowing agent, a solvent and a rheology modifier. The expandable graphite particles include from about 20 to about 95% by weight of the combined amount of expandable graphite particles and solid absorbent material. The polymeric binder comprises from about 10 to about 50% by weight of the combined amount of the polymeric binder, the expandable graphite particles, and the solid absorbent material. The carbonific material comprises from about 0 to about 70% by weight of the combined amount of the carbonific material and the polymeric binder. Similarly, the blowing agent comprises from about 0 to about 70% by weight of the combined amount of the blowing agent and the polymeric material. The solvent comprises from about 25 to about 50% by weight of the total composition. The rheology modifier is present in an amount of from 0.001 to about 7% by weight of the total composition, see abstract.

Applicant's claims are deemed to be anticipated over Formulation C in Table VI.

Although the patent does not directly state such parameters as applicant's

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claimed caulk rate, sump resistance, Fire test, and Hose Stream test, such parameters are deemed to be met by the above composition.

5. Claim 5 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Liu U.S. Patent Number 6,084,008.

Liu has been described above. Applicant's claimed concentration range is deemed to be anticipated over the disclosure of Liu in column 3, lines 29-42. In the alternative, applicant's claimed concentration range is deemed to be obvious over said disclosure.

6. Claims 7-8, 24, and 26-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu U.S. Patent Number 6,084,008 in view of Gestner et al. U.S. Patent Number 5,175,197.

Liu has been described above and differs from applicant's claimed invention in the following ways: 1) there is no direct disclosure to applicant's claimed polymer dispersions as set forth in claims 7-8 and 50-51, and 2) there is no direct disclosure to applicant's claimed hydrated alkali metal silicate containing boric acid or borate as set forth in claims 24, 26-49 and 51.

Gestner et al. teach a water-based, intumescent, fire retardant material that is made from, on a dry basis by weight, 100 parts of a latex such as polychloroprene latex and from 50 to 200 parts of water-insoluble intumescent mineral granules such as hydrated alkali metal silicate granules incorporating an

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oxy boron compound. This water-based intumescent material dries to an elastomeric state that has a Volume Expansion Factor (as defined) of at least two. It chars into a substantially rigid refractory thermal insulator to prevent fire from penetrating through voids into which the novel intumescent material has expanded, see abstract. Gestner et al directly teaches applicant's claimed polymeric dispersions of claims 7-8 and 50-51, see column 3, lines 41-68, Gestner et al also directly teaches the use of Expanrol 4 which is hydrated alkali metal silicate granules containing oxy boron compounds, see Table I and the examples.

It would have been obvious to one having ordinary skill in the art to use said direct disclosures of Gestner et al as strong motivation to actually use a polymeric dispersion that reads on applicant's claims 7-8 or 50-51 in the intumescent compositions taught by Liu. Likewise, it would have been obvious to use Gestner et al's disclosure as strong motivation to actually add hydrated alkali metal silicate granules containing oxy boron compounds, such as Expanrol 4, as an intumescent agent to the intumescent compositions taught by Liu for all the benefits that such intumescent agents are known to have.

7. Claims 1, 3, 6, and 9-21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hill, Jr. U.S. Patent Number 5,225,464.

Hill, Jr. teaches compositions useful in forming intumescent coatings are provided. These compositions are based on a reaction between phosphoric acid,

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melamine and monoammonium phosphate, which renders the monoammonium phosphate substantially less soluble while retaining its low dissolution temperature. Intumescent coatings utilizing the above-technology are disclosed, as is a method of manufacturing these coatings, see abstract. Applicant's claims are deemed to be directly anticipated over Composition 1 in column 2. Although the patent does not directly state such parameters as applicant's claimed caulk rate, sump resistance, Fire test, and Hose Stream test, such parameters are deemed to be met by the above composition.

8. Claims 4-5, 22, and 25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hill, Jr. U.S. Patent Number 5,225,464.

Hill, Jr. has been described above and is deemed to anticipate applicant's claimed invention in light of the further disclosure of column 3, line 57 to column 4, line 13. In the alternative, applicant's claims can be said to differ from Hill, Jr.'s Composition 1, in line column 2, in that the concentration range of the pentaerythritol component is outside of applicant's claimed range, and there is not a flame retardant species present that reads on applicant's claimed flame retardant species. In such a case, applicant's invention is thus deemed to be obvious over Hill, Jr.'s disclosure of column 3, line 57 to column 4, line 13.

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9. Claims 7-8, 24, and 26-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill, Jr. U.S. Patent Number 5,225,464 in view of Gestner et al. U.S. Patent Number 5,175,197.

Hill, Jr. has been described above and differs from applicant's claimed invention in the following ways: 1) there is no direct disclosure to applicant's claimed polymer dispersions as set forth in claims 7-8 and 50-51, and 2) there is no direct disclosure to applicant's claimed hydrated alkali metal silicate containing boric acid or borate as set forth in claims 24, 26-49 and 51.

Gestner et al. teach a water-based, intumescent, fire retardant material that is made from, on a dry basis by weight, 100 parts of a latex such as polychloroprene latex and from 50 to 200 parts of water-insoluble intumescent mineral granules such as hydrated alkali metal silicate granules incorporating an oxy boron compound. This water-based intumescent material dries to an elastomeric state that has a Volume Expansion Factor (as defined) of at least two. It chars into a substantially rigid refractory thermal insulator to prevent fire from penetrating through voids into which the novel intumescent material has expanded, see abstract. Gestner et al directly teaches applicant's claimed polymeric dispersions of claims 7-8 and 50-51, see column 3, lines 41-68, Gestner et al also directly teaches the use of Expanrol 4 which is hydrated alkali metal silicate granules containing oxy boron compounds, see Table I and the examples.

It would have been obvious to one having ordinary skill in the art to use said direct disclosures of Gestner et al as strong motivation to actually use a polymeric dispersion that reads on applicant's claims 7-8 or 50-51 in the intumescent compositions taught by Hill Jr.. Likewise, it would have been obvious to use Gestner et al's disclosure as strong motivation to actually add hydrated alkali metal silicate granules containing oxy boron compounds, such as Expantrol 4, as an intumescent agent to the intumescent compositions taught by Hill Jr. for all the benefits that such intumescent agents are known to have.

10. Claims 1, 3-5, 9-22 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Pedlow U.S. Patent Number 4,189,619.

Pedlow teaches a fire protective mastic is provided, whose essential components are solids including a low fusing ceramic frit, hydrated solids having chemically bonded water which is released as a fire protective water vapor when heated, solids which expand or intumesce during the same heat application to form a porous, expanded or foamy insulating body, solids which have a fire break effect, such as antimony oxide and zinc tetraborate, and binder solids which are thermoplastic resins and serve to bind the solids into a flexible coating when applied, the binder solids being dispersed as an emulsion in water and mixed with the other solids to form a mastic. With further addition of water it is converted to a selected viscosity for application by troweling, coating or spraying. The mastic is applied as a coating or a precast boot upon single or grouped

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electric power and control cables to restrict fire propagation and to prevent self ignition of cables from fires due to overloading or other electrical faults, or from oil, waste or trash fire sources. The mastic is further usefully shaped into fire protective panels the latter of which, when dried, can be mounted as a protective wall insulating a section of cables passing from area to area as a fire stop. The total panel can be formed of the dried mastic, or the mastic can be coated upon one or both sides of insulating panels such as ceramic fiber boards, to further reduce the temperature gradient through the panel upon fire exposure and thus appreciably reduce the temperature on the cold side by 50.degree.-70.degree. F., thereby minimizing the danger of self ignition of gases or combustible materials such as cable jacketing, insulation or other flammable materials, see abstract and the table in column 7-8. Applicant's claims are deemed to be anticipated over said Table and over Example 1. Although the patent does not directly state such parameters as applicant's claimed caulk rate, sump resistance, Fire test, and Hose Stream test, such parameters are deemed to be met by the above composition.

11. Claims 6-8 and 50 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Pedlow U.S. Patent Number 4,189,619.

Pedlow has been described above and applicant's claims are deemed to be anticipated over said Table and Example 1 in light of the disclosure set forth in

column 2, lines 3-31. In the alternative, applicant's claims can be said to differ from Pedlow's Table and Example 1 in that applicant's claimed species of polymers are not direct taught there. In any case, applicant's particular claimed polymers are very obvious over Pedlow's disclosure set forth in column 2, lines 3-31.

12. Claims 24 and 26-49 and 51 rejected under 35 U.S.C. 103(a) as being unpatentable over Pedlow U.S. Patent Number 4,189,619 464 in view of Gestner et al. U.S. Patent Number 5,175,197.

Pedlow has been described above and differs from applicant's claimed invention in that there is no direct disclosure to applicant's claimed hydrated alkali metal silicate containing boric acid or borate as set forth in claims 24, 26-49 and 51.

Gestner et al. teach a water-based, intumescent, fire retardant material that is made from, on a dry basis by weight, 100 parts of a latex such as polychloroprene latex and from 50 to 200 parts of water-insoluble intumescent mineral granules such as hydrated alkali metal silicate granules incorporating an oxy boron compound. This water-based intumescent material dries to an elastomeric state that has a Volume Expansion Factor (as defined) of at least two. It chars into a substantially rigid refractory thermal insulator to prevent fire from penetrating through voids into which the novel intumescent material has expanded, see abstract. Gestner et al directly teaches applicant's claimed

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polymeric dispersions of claims 7-8 and 50-51, see column 3, lines 41-68, Gestner et al also directly teaches the use of Expantrol 4 which is hydrated alkali metal silicate granules containing oxy boron compounds, see Table I and the examples.

It would have been obvious to one having ordinary skill in the art to use said direct disclosures of Gestner et al as strong motivation to actually add hydrated alkali metal silicate granules containing oxy boron compounds, such as Expantrol 4, as an intumescent agent to the intumescent compositions taught by Pedlow for all the benefits that such intumescent agents are known to have.

Prior-Art Cited But Not Applied

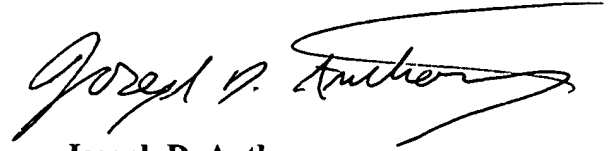
13. Any prior-art reference which is cited on FORM PTO-892 but not applied, is cited only to show the general state of the prior-art at the time of applicant's invention.

Examiner Information

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The centralized FAX machine number is (703) 872-9306. All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner.

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A handwritten signature in black ink, appearing to read "Joseph D. Anthony", with a long, sweeping horizontal line extending from the end of the signature.

Joseph D. Anthony
Primary Patent Examiner
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6/26/05